

**REMARKS**

**I. Introduction**

Receipt of the Office Action of November 16, 2001, is acknowledged. In response to the Office Action, claims 2, 6, and 7 have been canceled, without prejudice or disclaimer. The cancellation of claims does not constitute acquiescence to the propriety of any rejection set forth by the Examiner.

The amendments to the claims are generally supported by the specification, for example, the pyrrolidinyl ring is specifically contemplated when W is N, X is  $-\text{CH}_2-$ , A is  $(\text{CH}_2)_m$  (wherein m is 1) and B is  $(\text{CH}_2)_n$  (wherein n is 2). Moreover, numerous examples are directed to pyrrolidinyl rings. The proviso language at the end of claim 1 is supported by at least example 105. New claim 29 has been added. The compounds listed in claim 29 are supported by examples 81, 82, 86, 87 and 89.

The amendment does not introduce new matter, and accordingly, entry thereof is respectfully requested. Upon entry of the amendment, claims 1, 3-5, 8-10, and 12-29 will be pending in this application.

**II. Election/Restriction**

Applicants appreciate the acknowledgement that the elected species was free of the prior art. However, in expanding the search and examination of the subject matter of claim 1, the Examiner has improperly withdrawn claims 2-10 and 12-27.

The Examiner acknowledged that compounds, compositions, methods of use, and a process of making that are of the same scope form a single inventive concept; however, the Examiner failed to examine and consider claims 13, 21, and 28, which are of the same scope as claim 1. Moreover, the Examiner withdrew claims 2-4 and 6-10 because "prior art was found." It is respectfully submitted that the Examiner has improperly withdrawn claims 2-4 and 6-10. The withdrawal is improper because claims 2-4 and 6-10 read on the elected species of Example 71.

The Examiner advised Applicants of MPEP § 803.02, 4<sup>th</sup> paragraph, which states, in part, that “[i]f on examination the elected species is found to be anticipated or rendered obvious by prior art, the Markush-type claim and claims to the elected species shall be rejected, and claims to the non-elected species would be held withdrawn from further consideration. As in the prevailing practice, **a second action on the rejected claims would be made final** (emphasis by Examiner).”

It is understood that if the *elected species* were anticipated or rendered obvious by prior art, then the Examiner could make a second action final. However, the Examiner has indicated that the elected species is free of the prior art. Therefore, the Examiner’s attention is directed to MPEP § 803.02, 5<sup>th</sup> paragraph which states:

[o]n the other hand, should no prior art be found that anticipates or renders obvious the elected species, the search of the Markush-type claim will be extended. If prior art is then found that anticipates or renders obvious the Markush-type claim with respect to a nonelected species, the Markush-type claim shall be rejected and claims to the nonelected species held withdrawn from further consideration. The prior art search, however, will not be extended unnecessarily to cover all nonelected species. Should applicant, in response to this rejection of the Markush-type claim, overcome the rejection, as by amending the Markush-type claim to exclude the species anticipated or rendered obvious by the prior art, the amended Markush-type claim will be reexamined. The prior art search will be extended to the extent necessary to determine patentability of the Markush-type claim. In the event prior art is found during the reexamination that anticipates or renders obvious the amended Markush-type claim, the claim will be rejected and the action made final. Amendments submitted after the final rejection further restricting the scope of the claim may be denied entry.

It is understood that the Examiner has extended the search to non-elected species and has applied prior art to the Markush type claim. However, it is respectfully submitted that if Applicants amend the claims to overcome the rejection, then the Examiner is to follow the procedure of MPEP 803.02, 5<sup>th</sup> paragraph, which states that “the amended Markush-type claim will be *reexamined*. The prior art search will be *extended* to the extent necessary to determine patentability of the Markush-type claim. In the event prior art is found during the reexamination that anticipates or renders obvious the amended Markush-type claim, the claim

will be rejected and the action made final (emphasis added).” Therefore, it is respectfully requested that the Examiner reexamine the Markush-type claim by extending the search as necessary to determine patentability of the Markush-type claim.

Furthermore, it is respectfully requested that the Examiner reconsider holding at least claims 2-4, 6-10, 13, 21, and 28 as withdrawn from further consideration.

### **III. Improper Markush Rejection**

The Examiner stated that claim 1 was objected to as being drawn to an improper Markush group because a common core or nucleus is lacking.

Contrary to the Examiner’s assessment, it is respectfully submitted that there is a common core or nucleus present. According to amended claim 1, a pyrrolidinyl ring is common in all compounds of the claims.

It is respectfully submitted that the pyrrolidinyl ring not only constitutes a significant nucleus but also, since this backbone is common to all compounds, constitutes a proper Markush group. Hence, the claims comprise a proper Markush group.

According to MPEP, 2173.05(h),

[a]lternative expressions are permitted if they present no uncertainty or ambiguity with respect to the question of scope or clarity of the claims. One acceptable form of alternative expression, which is commonly referred to as a Markush group, recites members as being ‘selected from the group consisting of A, B, and C.’

Here, the present claims are clear and unambiguous. The variable terms are defined in the claims and specification. Moreover, MPEP §. 2173.05(h) states that “[t]he use of Markush claims of diminishing scope should not, in itself, be considered a sufficient basis for objection or rejection of claims.”

The Examiner appears to be improperly applying the standard of proper Markush groups to the claims. The court in In re Jones, 74 U.S.P.Q. 149 (CCPA 1947), in reversing

the Board of Patent Appeals and Interferences and the Examiner, held that the different side chains of the inventive tetralin compounds constituted a proper Markush group. Further, the Jones court held that “[t]he inclusion in Markush groups of compounds which differed widely in some respects, have been permitted.” Id. at 151. The Jones court also relied on a previous decision where the Commissioner of Patents permitted the inclusion of “aliphatic, aromatic and aralkyl in a single group,” Id. at 151 (citing Ex parte Clarke, 11 USPQ 52 (Pat. Bd App. & Int. 1931)). Furthermore, the Jones court stated that “[w]hether a group is proper must be decided in view of the facts of each particular case.” Id. at 151. Thus, the determination of a proper Markush group is fact driven. In the present application, the pyrrolidinyl ring constitutes a proper Markush group as set forth by MPEP § 2173.05. Therefore, the rejection of the claims as constituting an improper Markush group is improper.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

#### **IV. Rejections under 35 U.S.C. § 102**

Claim 1 was rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Gerard et al. (FR 2694003), Sato et al. (WO 93/04042), Schohe et al. (U.S. Patent No. 5,274,097), Boudet-Dalbin et al. (*Eur. J. Med. Chem.*, 1986) and Jozic (U.S. Patent No. 4,396,622). Applicants respectfully traverse the grounds of rejection.

##### **A. Rejection based on Gerard et al.**

Claim 1 is alleged to be anticipated by Gerard et al. where the compounds of claim 1 recite that x is 2, R<sup>1</sup> is methyl, Y is ethylene, Z is -N-S(O)<sub>2</sub>-, R<sup>5</sup> is methyl, and R<sup>2</sup> is naphthyl.

Without acquiescing to the position of the Examiner, a proviso has been added to claim 1 reciting that when Y is C<sub>5</sub> to C<sub>10</sub> alkylene, then Z is -N(R<sup>5</sup>)SO<sub>2</sub>-. Therefore, Gerard et al. do not anticipate the claimed invention, as amended.

**B. Rejection based on Sato et al.**

Claim 1 is alleged to be anticipated by Sato et al. by compounds having Chemical Abstracts Registry Nos. 151642-44-3P and 151642-45-4P.

Without acquiescing to the position of the Examiner, a proviso has been added to claim 1 reciting that when Y is C<sub>5</sub> to C<sub>10</sub> alkylene, then Z is -N(R<sup>5</sup>)SO<sub>2</sub>-. Therefore, Sato et al. do not anticipate the claimed invention, as amended.

**C. Rejection based on Schohe et al.**

Claim 1 is alleged to be anticipated by Schohe et al. by compounds having Chemical Abstracts Registry Nos. 127341-41-7P; 127341-57-5P and 127366-99-8P.

Without acquiescing to the position of the Examiner, a proviso has been added to claim 1 reciting that when Y is C<sub>5</sub> to C<sub>10</sub> alkylene, then Z is -N(R<sup>5</sup>)SO<sub>2</sub>-. Therefore, Schohe et al. do not anticipate the presently claimed invention.

**D. Rejection based on Boudet-Dalbin et al.**

Claim 1 is alleged to be anticipated by Boudet-Dalbin et al. by a compound having Chemical Abstracts Registry No. 103595-49-9P.

Without acquiescing to the position of the Examiner, a proviso has been added to claim 1 reciting that when Y is C<sub>5</sub> to C<sub>10</sub> alkylene, then Z is -N(R<sup>5</sup>)SO<sub>2</sub>-. Therefore, Boudet-Dalbin et al. do not anticipate the presently claimed invention.

**E. Rejection based on Jozic**

Claim 1 is alleged to be anticipated by Jozic et al. by the compounds on columns 11-26 of the patent.

Without acquiescing to the position of the Examiner, a proviso has been added to claim 1 reciting that when Y is C<sub>5</sub> to C<sub>10</sub> alkylene, then Z is -N(R<sup>5</sup>)SO<sub>2</sub>-. Therefore, Jozic does not anticipate the presently claimed invention.

Accordingly, in light of the amendment to claim 1, reconsideration and withdrawal of the amendments are respectfully requested.

**V. Rejections under 35 U.S.C. § 112, Second Paragraph**

Claim 1 has been rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite for the recitation of “C<sub>1</sub> to C<sub>10</sub> hydrocarbyl, in which up to 2 carbon atoms may be replaced by O, S or N, and up to 2 hydrogen atoms may be replaced by halogen.” Applicants respectfully traverse.

Without acquiescing to the position of the Examiner, the language which the Examiner rejected has been eliminated from the claim and the definition of R<sup>1</sup> from claim 2 has been incorporated into claim 1.

Accordingly, in light of the amendment to claim 1, reconsideration and withdrawal of the amendments are respectfully requested.

**VI. Conclusion**

The claimed invention is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

If there are any fees due in connection with the filing of this Amendment, please charge the fees to our Deposit Account No. 19-0741. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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Date: February 19, 2002

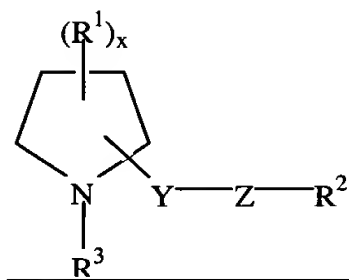
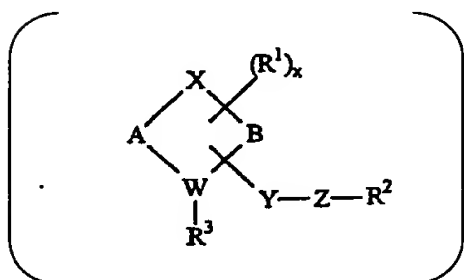
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**Marked Up Version of the Claims**

1. (Amended) A compound of the formula



wherein

**[A is (CH<sub>2</sub>)<sub>m</sub>, m being from 1 to 3;**

**B is (CH<sub>2</sub>)<sub>n</sub>, n being from 1 to 3;]**

x is from 0 to 2;

R<sup>1</sup> is selected from the group consisting of hydroxy, C<sub>1</sub> to C<sub>9</sub> alkoxy (optionally substituted by halo), C<sub>1</sub> to C<sub>9</sub> cycloalkylalkoxy (wherein the cycloalkyl group is optionally substituted by C<sub>1</sub> to C<sub>4</sub> alkyl or halo, and the alkoxy group is optionally substituted by halo), arylalkoxy (wherein the aryl group is optionally substituted by C<sub>1</sub> to C<sub>4</sub> alkyl, C<sub>1</sub> to C<sub>3</sub> alkoxy or halo, and the alkoxy group is optionally substituted by halo) and C<sub>1</sub> to C<sub>9</sub> alkyl amino (wherein the alkyl group is optionally substituted by halo)[C<sub>1</sub> to C<sub>10</sub>



**hydrocarbyl, in which up to 2 carbon atoms may be replaced by O, S or N, and up to 2 hydrogen atoms may be replaced by halogen;]**

**$R^2$  is selected from the group consisting of  $H_1$ [or  $C_1$  to  $C_{15}$  hydrocarbyl, in which up to 3 carbon atoms may be replaced by O, S or N, and up to 3 hydrogen atoms may be replaced by halogen;] alkyl, aryl, arylalkyl, cycloalkyl and cycloalkylalkyl, wherein alkyl moieties are optionally substituted by halo, and aryl groups are optionally substituted by  $C_1$  to  $C_4$  alkyl,  $C_1$  to  $C_4$  alkoxy and halo,**

**$R^3$  is absent when  $-Y-Z-R^2$  is attached to W, or  $R^3$  is selected from the group consisting of  $H_1$ [or  $C_1$  to  $C_7$  hydrocarbyl]  $C_1$  to  $C_7$  alkyl and benzyl, when**

**$-Y-Z-R^2$  is not attached to W;**

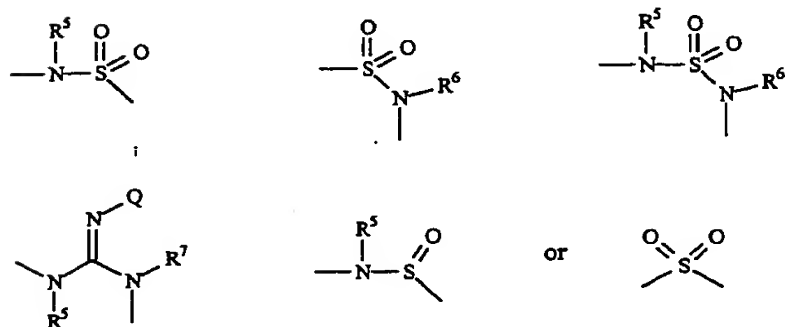
**[W is nitrogen;**

**X is  $-CH_2-$ ,  $-O-$  or  $-NR^4-$ ,  $R^4$  being H or  $C_1$  to  $C_3$  alkyl;]**

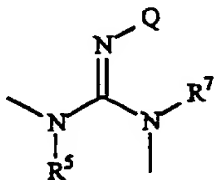
**Y replaces a hydrogen atom on any of A, B, W and X, and is  $C_2$  to  $C_{10}$**

**alkylene, in which one non-terminal carbon atom may be replaced by O; and**

**Z is**



wherein  $R^5$ ,  $R^6$  and  $R^7$  are independently H or  $C_1$  to  $C_{15}$  hydrocarbyl, in which up to 3 carbon atoms may be replaced by O or N, and up to 3 hydrogen atoms may be replaced by halogen, and Q is H or methyl, or Q is linked to  $R^5$  or  $R^7$  to form a five-membered ring or Q is linked to  $R^2$  to form a six-membered ring, provided that when Z is



at least one of  $R^5$  and  $R^7$  is aryl( $C_1$  to  $C_3$ )alkyl or cycloalkyl( $C_1$  to  $C_3$ )alkyl, optionally substituted by halo;

provided that Y is  $C_5$  to  $C_{10}$  alkylene when Z is  $-N(R^5)SO_2-$

or a pharmaceutically acceptable salt thereof.